

17. The method of claim 16, wherein the cell-specific reference signal waveform is generated further using at least a slot number index corresponding to the selected cell.

18. An apparatus, comprising:

at least one memory including computer program code;

at least one processor,

the one or more memories and the computer program code configured, with the one or more processors, to cause the apparatus to perform at least the following:

receiving, at a user equipment, a signal comprising cell-specific reference signals from a plurality of cells;

measuring by the user equipment one or more cell-specific reference signals from one of the plurality of cells to determine one or more measured results;

performing, by the user equipment and based on the one or more measured results meeting one or more first criteria, interference cancellation to cancel the one or more cell-specific reference signals corresponding to the one cell from the signal;

performing, by the user equipment, the measuring and the performing the interference cancellation for additional ones of the plurality of cells until one or more second criteria are met; and

using measured cell-specific reference signals having their interference canceled to reduce an effect of interference from corresponding cells on communications between a user equipment and a base station.

19. The apparatus of claim 18, wherein the one or more memories and the computer program code are further configured, with the one or more processors, to cause the apparatus to perform at least the following: receiving cell search information and means for using the cell search information for the measuring the one or more first cell-specific reference signals.

20. The apparatus of claim 19, wherein receiving search information further comprises receiving the cell search information from the base station, wherein the base station services a first cell of the plurality of cells, and wherein the first cell is a serving cell for the user equipment.

21. The apparatus of claim 19, wherein the cell search information comprises cell identifications, timing information, and cyclic prefixes for at least some of the plurality of cells.

22. (canceled)

23. The apparatus of claim 19, wherein the one or more memories and the computer program code are further configured, with the one or more processors, to cause the apparatus to perform at least the following: creating by the user equipment a database of information corresponding to the cell-specific reference signals for at least some of the plurality of cells and location information for the some of the plurality of cells.

24. The apparatus of claim 23, wherein the one or more memories and the computer program code are further configured, with the one or more processors, to cause the apparatus to perform at least the following: using the database to determine which cells at a location are cells creating interference for a communication between the user equipment and a base station providing access by the user equipment to a wireless network, and using the cells creating interference from the database to select cells for performing the measuring and the performing interference cancellation.

25. The apparatus of claim 19, where the measuring and performing are performed for a second base station serving a

second cell, and wherein the interference cancellation is performed in response to determining by the user equipment that a cell-specific reference signal of the second of the plurality of cells interferes with a communication that occurs between the user equipment and the base station.

26. The apparatus of claim 25, wherein performing the measuring and the performing the interference cancellation for additional ones of the plurality of cells until one or more second criteria are met further comprises:

measuring one or more cell-specific reference signals from a third base station servicing a third cell, where a first coverage of the first cell at least partially overlaps a third coverage of the third cell; and

performing, responsive to the one or more measured results from the third cell meeting one or more first criteria, interference cancellation to reduce an effect of the third cell on communications that occur between the user equipment and the first cell.

27. The apparatus as in claim 18, wherein the performing the measuring and performing interference cancellation is performed for the additional cells having a coverage that at least partially overlaps with a first coverage of a first cell formed by a base station, where the first cell is a serving cell for the user equipment.

28. The apparatus of claim 18, wherein the one or more first criteria comprise one of a level of interference, a specified signal to noise ratio, or a signal to interference plus noise ratio.

29. The apparatus of claim 18, wherein the one or more second criteria comprise one of: a channel estimate for a selected cell is not accurate enough based on an estimated signal to noise ratio or signal to interference plus noise ratio; a certain number of interfering signals have been canceled; or an estimated quality of a signal received from a base station providing access by the user equipment to a wireless network meets a condition.

30. The apparatus of claim 29, wherein the estimated quality of the signal received from a current access base station is determined to meet the condition in response to the received signal being determined to be good enough based on an estimated signal to interference plus noise ratio, or in response to enough interference has been canceled such that a noise level is within an acceptable range.

31. The apparatus of claim 18, wherein the one or more memories and the computer program code are further configured, with the one or more processors, to cause the apparatus to perform at least the following: performing one or more cell-specific reference signal measurements for cells deemed to be interfering during measurement opportunities provided by a base station, wherein the base station provides access by the user equipment to a wireless network, adjusting gain control using the one or more cell-specific reference signal measurements, and using the adjusted gain control for the performing interference cancellation.

32. The apparatus of claim 18, wherein:

the performing interference cancellation for a selected cell comprises creating a cell-specific reference signal waveform for the selected cell, applying gain to the created cell-specific reference signal waveform to create a gain-adjusted cell-specific reference signal waveform, and adding the gain-adjusted cell-specific reference signal waveform to the received signal to create a resultant signal; and